

NRL's Vanguard I Satellite

The Oldest Man-made Object in Space



Vanguard I was America's second successful attempt to place an artificial satellite in earth orbit. The technical program of Project Vanguard was assigned to the Naval Research Laboratory (NRL) by President Dwight D. Eisenhower on September 9, 1955. NRL's many responsibilities in the program included the development of the Vanguard I satellite and the Vanguard three stage launch vehicle, coordinating the launch, and establishing the first satellite tracking facility to conduct the radio tracking of the satellite. The satellite was successfully launched on March 17, 1958.

The satellite measured 6.4 inches in diameter and weighed 3 pounds. This tiny sphere, also known as the "grapefruit satellite" provided scientists with a wealth of information on air density, temperature ranges, and micrometeorite impacts. Data from Vanguard I first illustrated that the earth is slightly "pear-shaped". Although the satellite's solar cellpowered voice became silent in 1964, Vanguard I continues to serve the scientific community. Periodic tracking of Vanguard is providing important information on the effects of the sun, moon and atmosphere on satellite orbits. Vanguard I is expected to remain in orbit for nearly 2000 years.

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